

## Abstract

The present invention provides a configuration where all optical parts of a monitoring system are contained within a seal and within the generator itself. Non-optical preamplifier functions may also be placed within the seal. In this configuration there is an electrical rather than optical feed-through at the generator wall, which is hermetically sealed, unlike a fiber optic feed-through. The fiber optic light source and detector for each sensor is located in the seal on the generator side of the hermetic electrical feed-through. Electrical power and the sensor's converted electrical vibration signals pass through the electrical feed-through to preamplifier circuitry on the outside of the seal where direct electrical connection is then made to a main chassis unit.